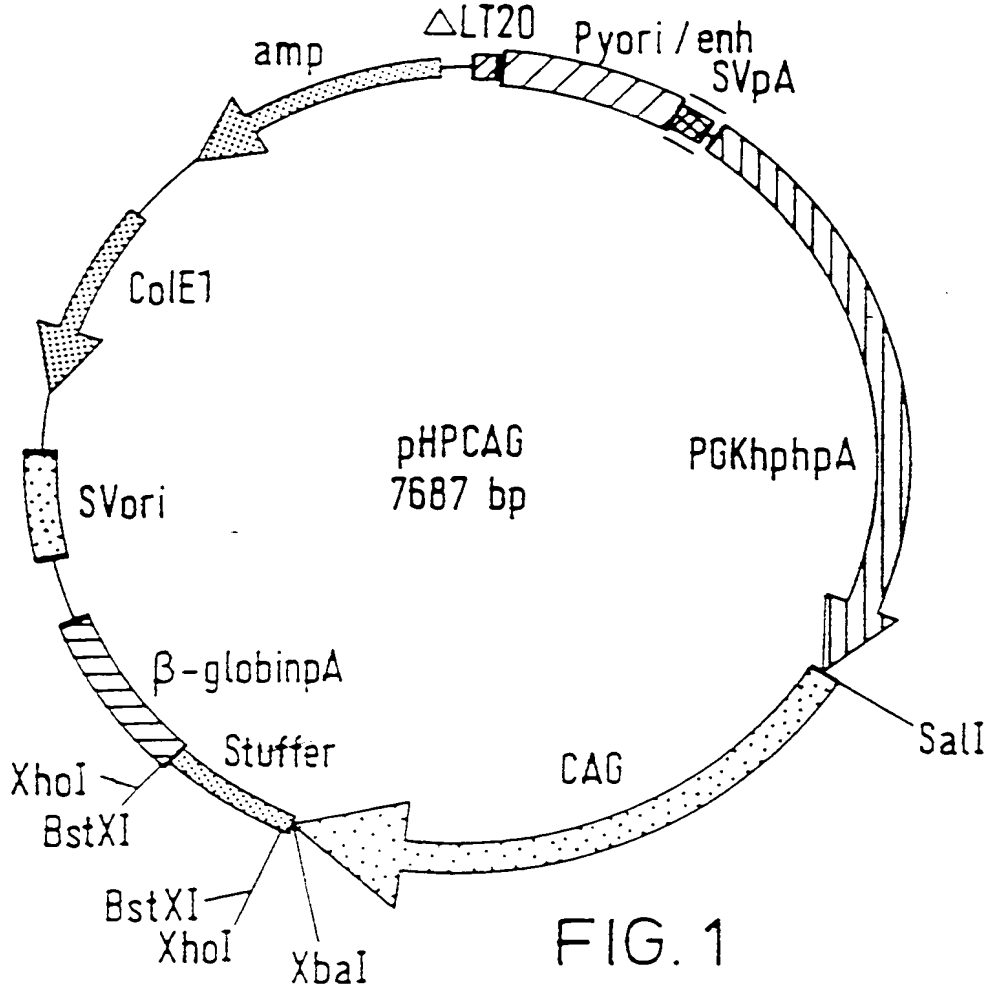
amp
ΔLT20
Pyori/enh
SVpA
ColE1
pHPCAG
7687 bp
PGKhphpA
SVori
β-globinpA
Stuffer
CAG
SalI
XhoI
BstXI
BstXI
XhoI
XbaI

FIG. 1

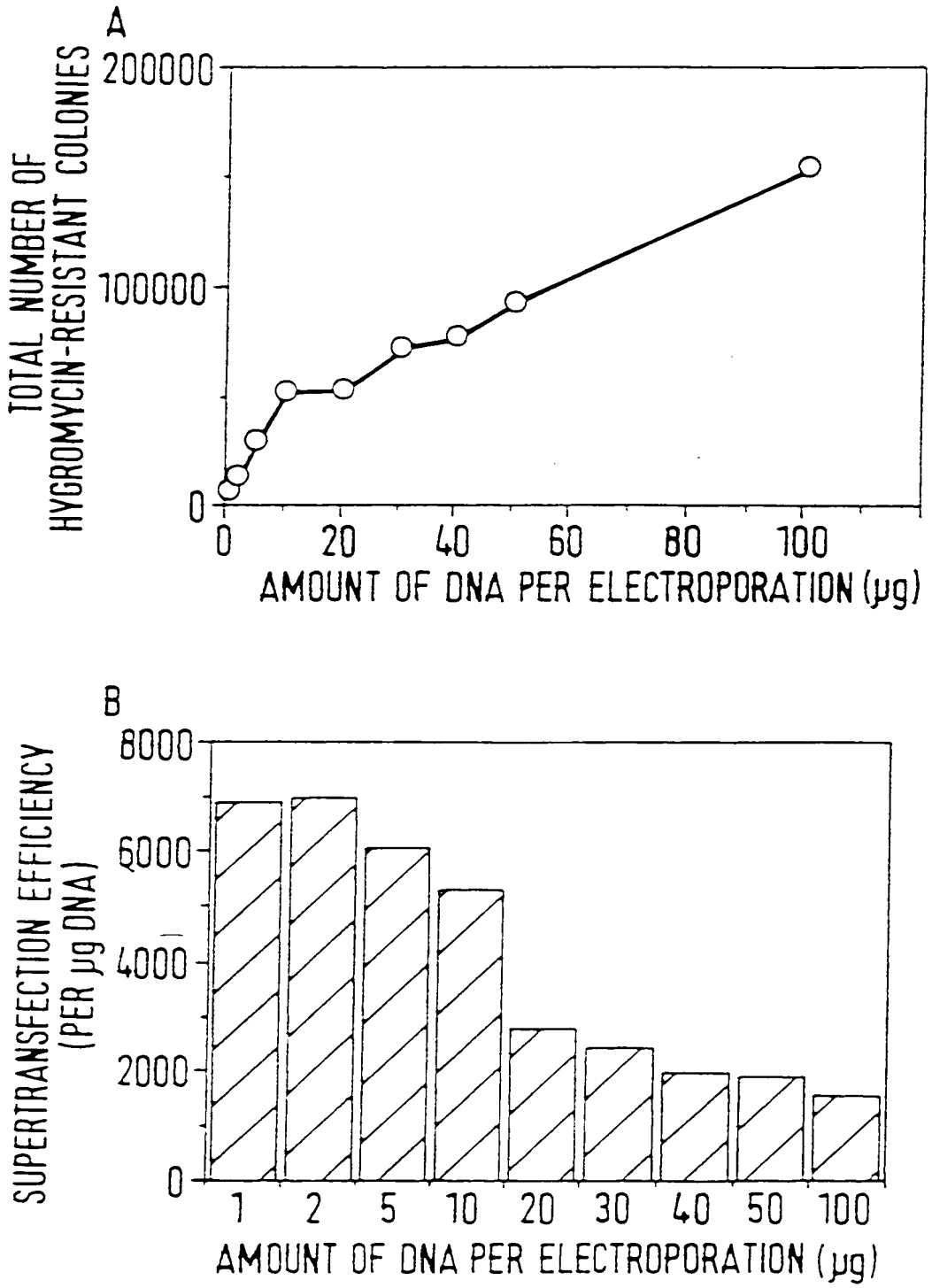
A
TOTAL NUMBER OF HYGROMYCIN-RESISTANT COLONIES
200000
100000
0
0
20
40
60
80
100
AMOUNT OF DNA PER ELECTROPORATION (µg)
B
SUPERTRANSFECTION EFFICIENCY (PER µg DNA)
8000
6000
4000
2000
0
1
2
5
10
20
30
40
50
100
AMOUNT OF DNA PER ELECTROPORATION (µg)

FIG. 2

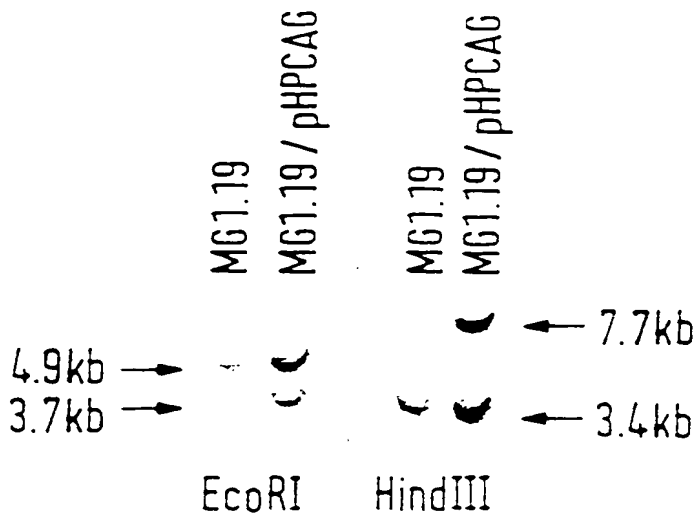
MG1.19
MG1.19 / pHPCAG
MG1.19
MG1.19 / pHPCAG
7.7kb
4.9kb
3.7kb
3.4kb
EcoRI
HindIII

FIG. 3

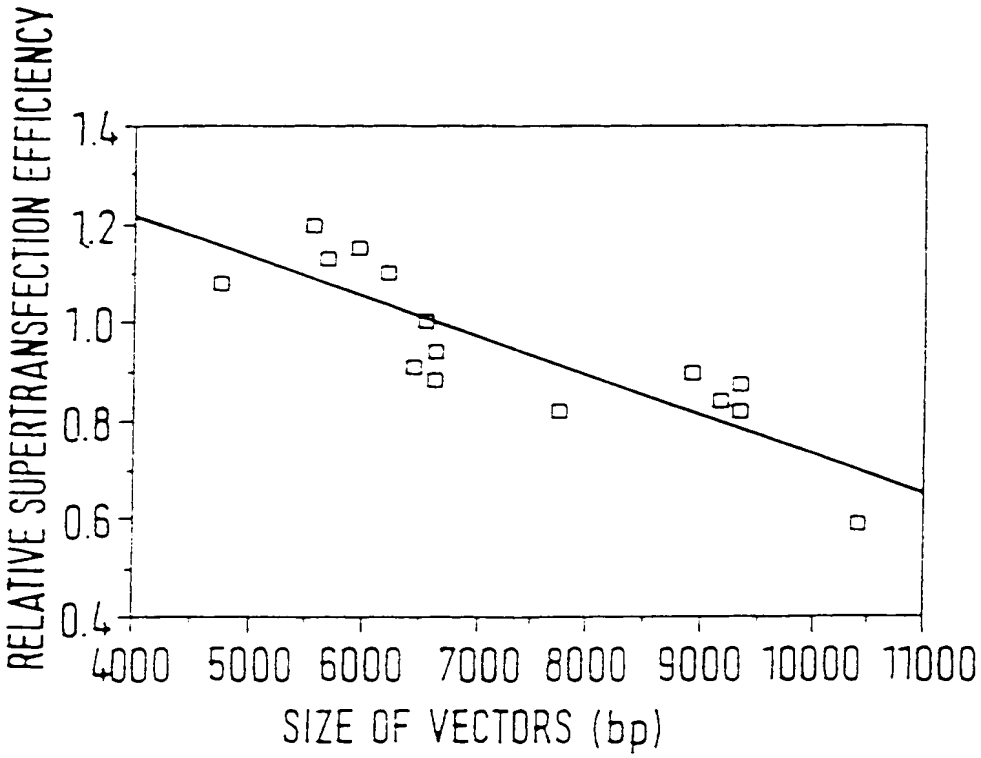
RELATIVE SUPERTRANSFECTION EFFICIENCY
1.4
1.2
1.0
0.8
0.6
0.4
4000
5000
6000
7000
8000
9000
10000
11000
SIZE OF VECTORS (bp)

FIG. 4

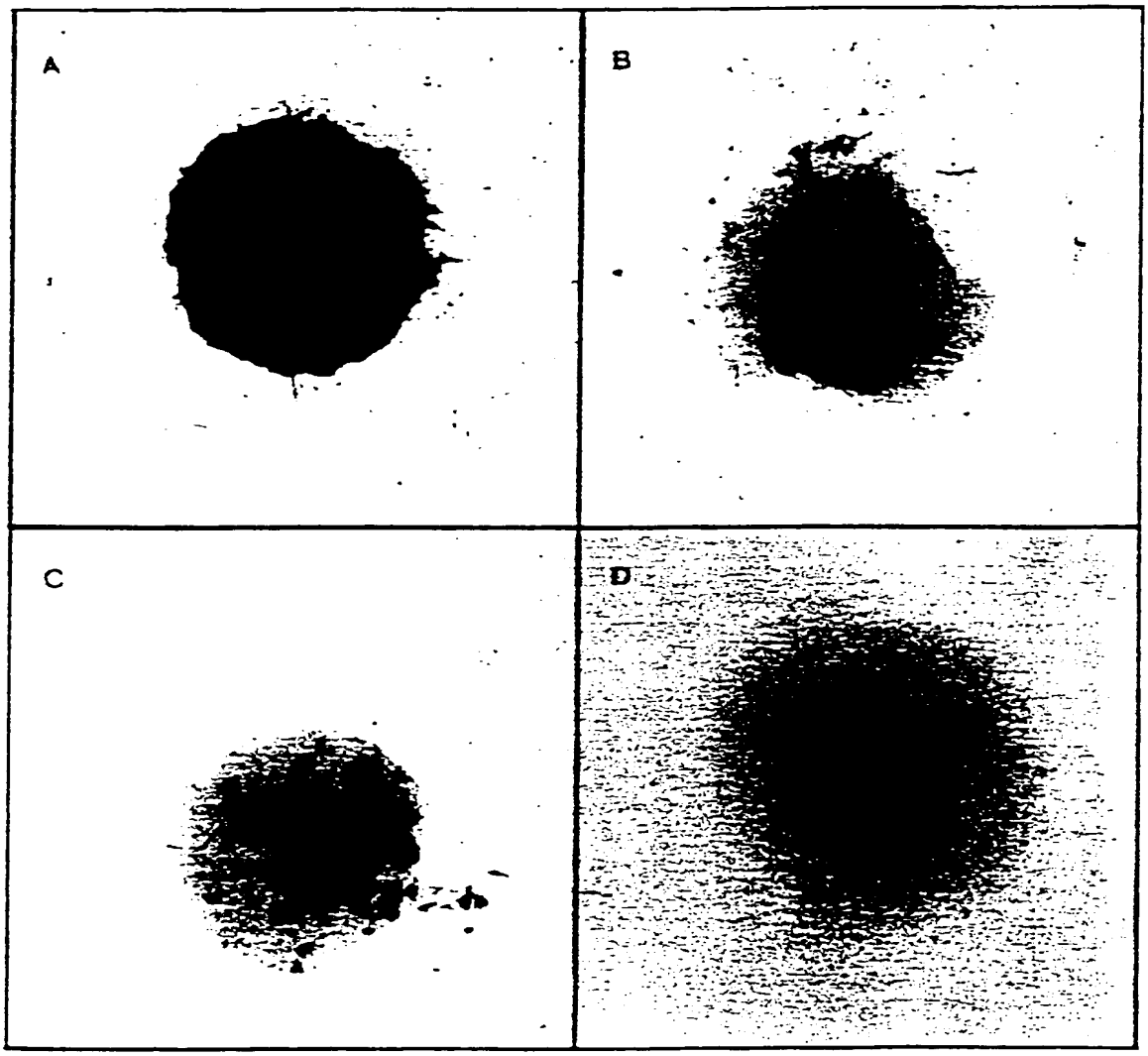

FIG. 5

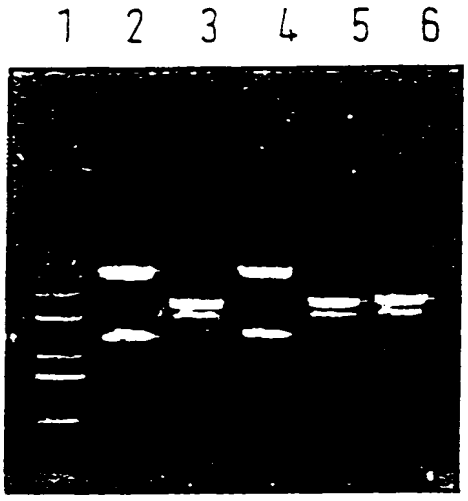

FIG. 6

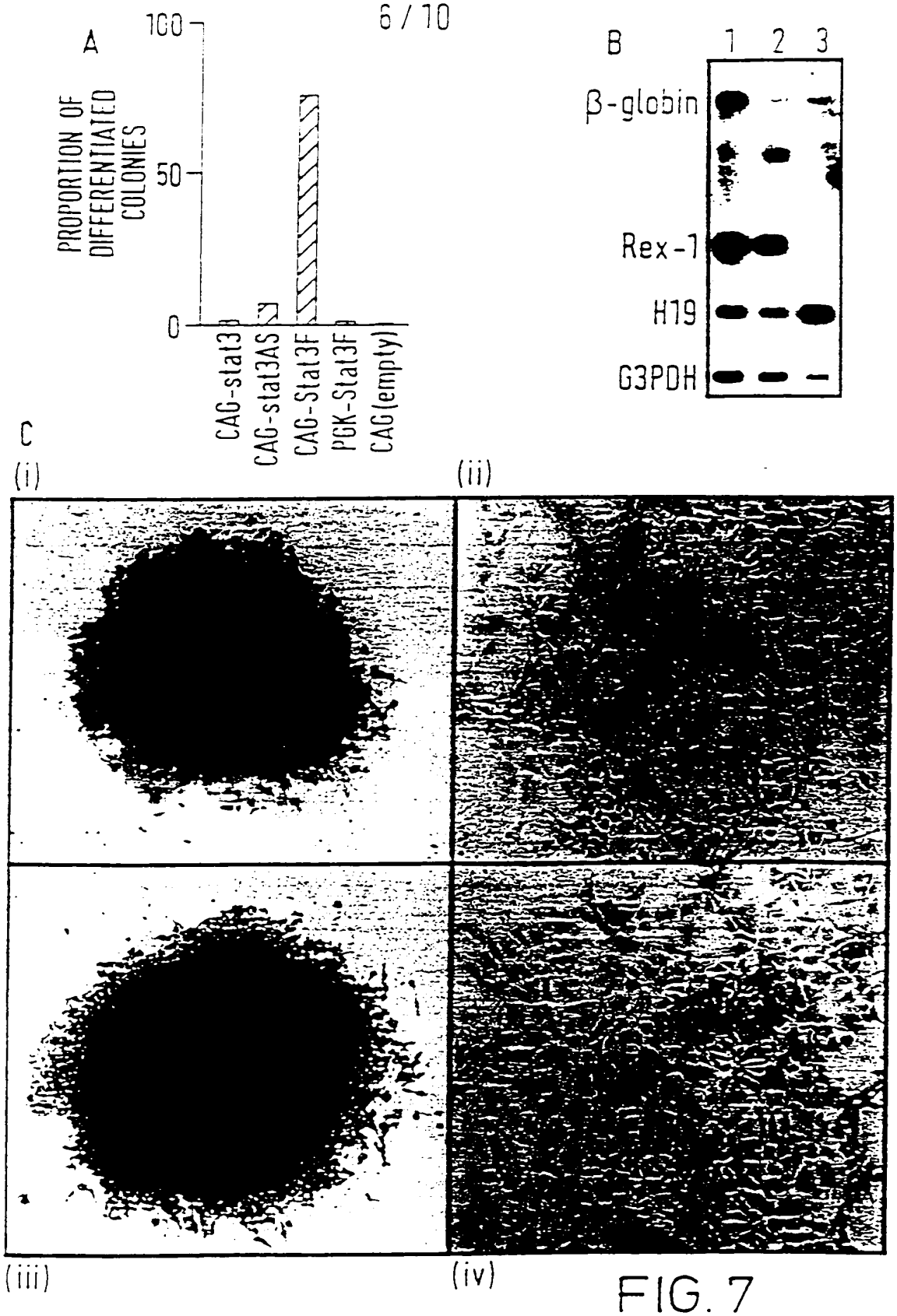
A
PROPORTION OF DIFFERENTIATED COLONIES
100
50
0
CAG-stat3β
CAG-stat3AS
CAG-Stat3F
PGK-Stat3F
CAG(empty)
B
1 2 3
β-globin
Rex-1
H19
G3PDH
C
(i)
(ii)
(iii)
(iv)

FIG. 7

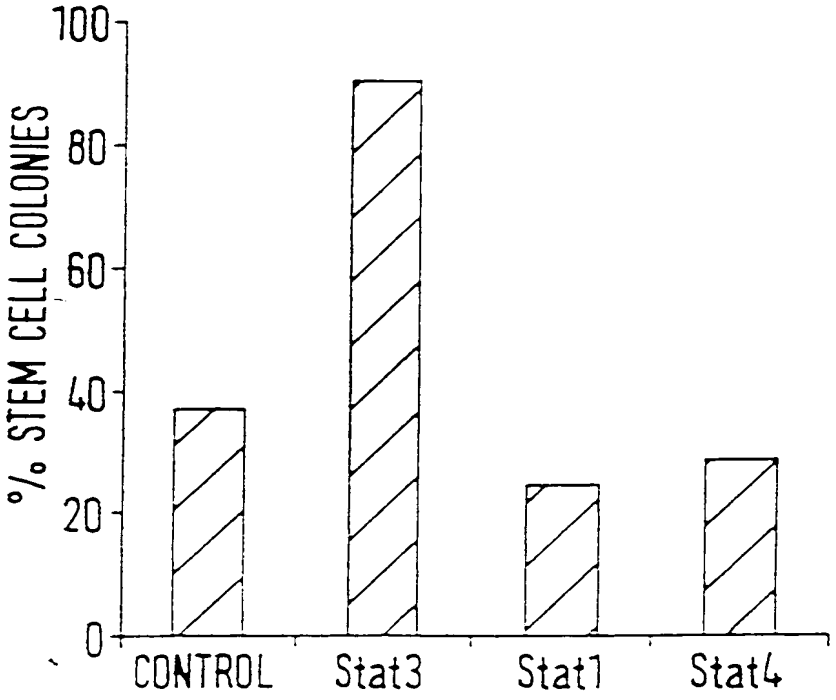
100
80
60
40
20
0
% STEM CELL COLONIES
CONTROL
Stat3
Stat1
Stat4

FIG. 8

FIG. 9

SEQUENCE OF LINKER OLIGONUCLEOTIDES.

a) FLAG linker

FLAG epitope

XhoI NotI Gly Ser ASP TYR LYS ASP ASP

ASP CTA GAC TCG AGT AGC GGC CGC GGC AGC GAC TAC AAG GAC

GAC GAC

BssHII

ASP LYS Gly Ser Cys Arg Ala

GAC AAG GGG AGC TGC CGC GCG C

b) $[gly_4 ser]_3$ linker

XhoI NotI Gly Gly Gly Gly Ser Gly Gly

Gly Gly Ser

CTA GAC TCG AGT AGC GGC CGC GGA GGC GGA TAC GGA AGC GGA

GGA GGG AGC

BssHII

Cys Arg Ala

TGC CGC GCG C

FIG. 10

SEQUENCE OF TRUNCATED AND MODIFIED IL6R.

a) FLAGdeltaIL6R

TCTAGACTCGAGTAGCGGCCGCGGCAGCGACTACAAGGACGACGACGACAAGGGGAGCTGCCGCGCGCTGGAGGT
GGCAAATGGCACAGTGACAAGCCTGCCAGGGGCCACCGTTACCCTGATTTGCCCCGGGAAGGAAGCAGCAGGCAA
TGTTACCATTCACTGGGTGTACTCTGGCTCACAAAACAGAGAATGGACTACCACAGGAAACACACTGGTTCTGAG
GGACGTGCAGCTCAGCGACACTGGGGACTATTTATGCTCCCTGAATGATCACCTGGTGGGGACTGTGCCCTTGCT
GGTGGATGTTCCCCCAGAGGAGCCCAAGCTCTCCTGCTTCCGGAAGAACCCCCTTGTCAACGCCATCTGTGAGTG
GCGTCCGAGCAGCACCCCCTCTCCAACCACGAAGGCTGTGCTGTTTGCAAAGAAAATCAACACCACCAACGGGAA
GAGTGACTTCCAGGTGCCCTGCCAGTATTCTCAGCAGCTGAAAAGCTTCTCCTGCCAGGTGGAGATCCTGGAGGG
TGACAAAGTATACCACATAGTGTCACTGTGCGTTGCAAACAGTGTGGGAAGCAAGTCCAGCCACAACGAAGCGTT
TCACAGCTTAAAAATGGTGCAGCCGGATCCACCTGCCAACCTTGTGGTATCAGCCATACCTGGAAGGCCGCGCTG
GCTCAAAGTCAGCTGGCAGCACCCTGAGACCTGGGACCCGAGTTACTACTTGCTGCAGTTCCAGCTTCGATACCG
ACCTGTATGGTCAAAGGAGTTCACGGTGTTGCTGCTCCCGGTGGCCCAGTACCAATGCGTCATCCATGATGCCTT
GCGAGGAGTGAAGCACGTGGTCCAGGTCCGTGGGAAGGAGGAGCTTGACCTTGGCCAGTGGAGTGAATGGTCCCC
AGAGGTCACGGGCACTCCTTGGATAGCAGAGCCCAGGACCACCCCGGCAGGAATCCTCTGGAACCCCACACAGGT
CTCTGTTGAAGACTCTGCCAACCACGAGGATCAGTACGAAAGTTCTACAGAAGCAACGAGTGTCCTCGCCCCAGT
GCAAGAATCCTCGTCCATGTCCCTGCCCACATTCCTGGTAGCTGGAGGAAGCTTGGCGTTTGGGTTGCTTCTCTG
TGTCTTCATCATCCTGAGACTCAAGCAGAAATGGAAGTCAGAGGCTGAGAAGGAAAGCAAGACGACCTCTCCTCC
ACCCCCACCGTATTCTTGGGCCCACTGAAGCCGACCTTCCTTCTGGTTCCTCTCCTCACCCCACACAGCTCTGG
GTCTGACAATACCGTAAACCACAGCTGCCTGGGTGTCAGGGACGCACAGAGCCCTTATGACAACAGCAACAGAGA
CTACTTATTCCCCAGATAA

b)[gly,ser]$_1$deltaIL6R

TCTAGACTCGAGTAGCGGCCGCGGAGGCGGAGGAAGCGGAGGAGGAGGGAGCTGCCGCGCGCTGGAGGTGGCAAA
TGGCACAGTGACAAGCCTGCCAGGGGCCACCGTTACCCTGATTTGCCCCGGGAAGGAAGCAGCAGGCAATGTTAC
CATTCACTGGGTGTACTCTGGCTCACAAAACAGAGAATGGACTACCACAGGAAACACACTGGTTCTGAGGGACGT
GCAGCTCAGCGACACTGGGGACTATTTATGCTCCCTGAATGATCACCTGGTGGGGACTGTGCCCTTGCTGGTGGA
TGTTCCCCCAGAGGAGCCCAAGCTCTCCTGCTTCCGGAAGAACCCCCTTGTCAACGCCATCTGTGAGTGGCGTCC
GAGCAGCACCCCCTCTCCAACCACGAAGGCTGTGCTGTTTGCAAAGAAAATCAACACCACCAACGGGAAGAGTGA
CTTCCAGGTGCCCTGCCAGTATTCTCAGCAGCTGAAAAGCTTCTCCTGCCAGGTGGAGATCCTGGAGGGTGACAA
AGTATACCACATAGTGTCACTGTGCGTTGCAAACAGTGTGGGAAGCAAGTCCAGCCACAACGAAGCGTTTCACAG
CTTAAAAATGGTGCAGCCGGATCCACCTGCCAACCTTGTGGTATCAGCCATACCTGGAAGGCCGCGCTGGCTCAA
AGTCAGCTGGCAGCACCCTGAGACCTGGGACCCGAGTTACTACTTGCTGCAGTTCCAGCTTCGATACCGACCTGT
ATGGTCAAAGGAGTTCACGGTGTTGCTGCTCCCGGTGGCCCAGTACCAATGCGTCATCCATGATGCCTTGCGAGG
AGTGAAGCACGTGGTCCAGGTCCGTGGGAAGGAGGAGCTTGACCTTGGCCAGTGGAGTGAATGGTCCCCAGAGGT
CACGGGCACTCCTTGGATAGCAGAGCCCAGGACCACCCCGGCAGGAATCCTCTGGAACCCCACACAGGTCTCTGT
TGAAGACTCTGCCAACCACGAGGATCAGTACGAAAGTTCTACAGAAGCAACGAGTGTCCTCGCCCCAGTGCAAGA
ATCCTCGTCCATGTCCCTGCCCACATTCCTGGTAGCTGGAGGAAGCTTGGCGTTTGGGTTGCTTCTCTGTGTCTT
CATCATCCTGAGACTCAAGCAGAAATGGAAGTCAGAGGCTGAGAAGGAAAGCAAGACGACCTCTCCTCCACCCCC
ACCGTATTCTTGGGCCCACTGAAGCCGACCTTCCTTCTGGTTCCTCTCCTCACCCCACACAGCTCTGGGTCTGA
CAATACCGTAAACCACAGCTGCCTGGGTGTCAGGGACGCACAGAGCCCTTATGACAACAGCAACAGAGACTACTT
ATTCCCCAGATAA

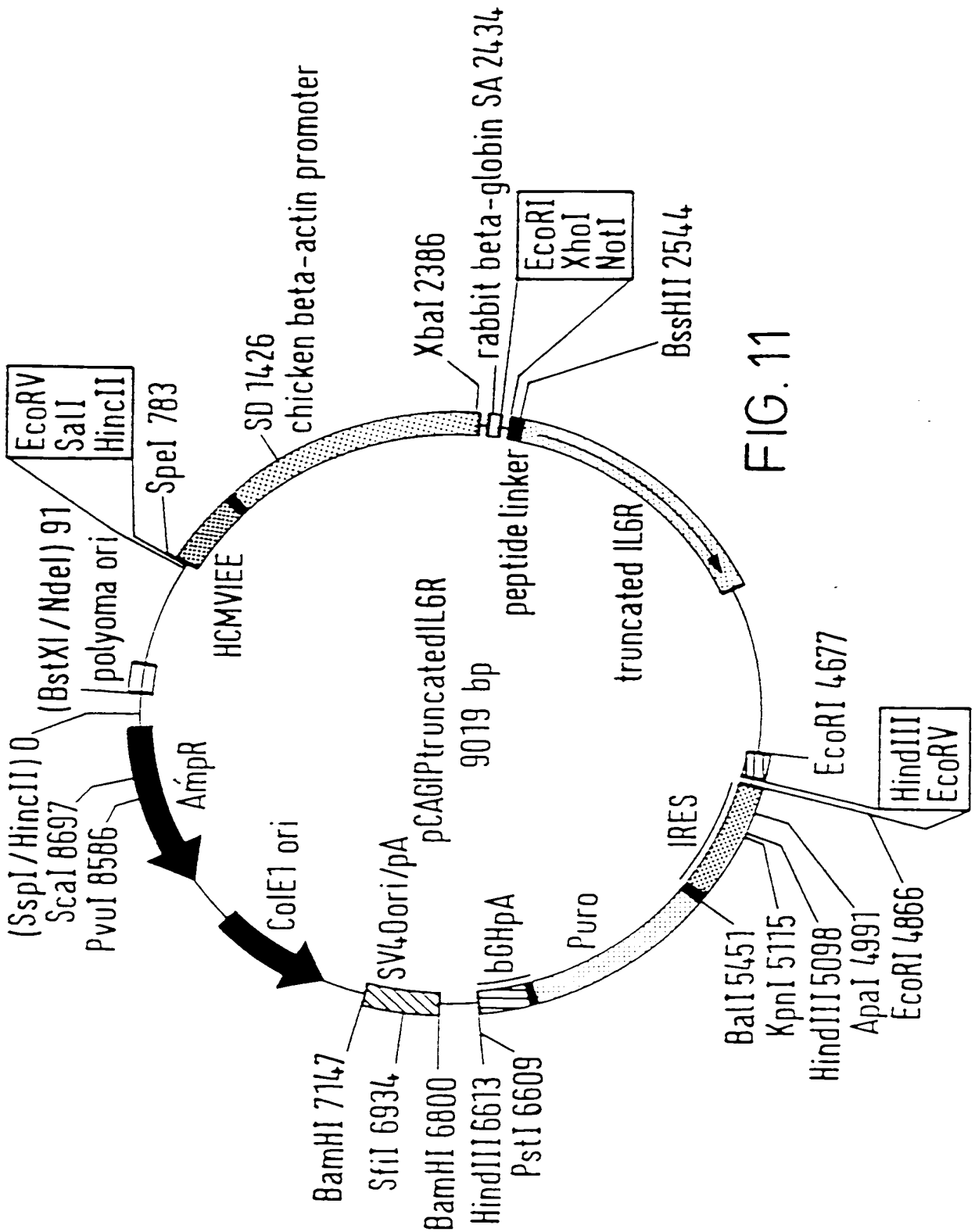
EcoRV
SalI
HincII
SpeI 783
SD 1426
chicken beta-actin promoter
XbaI 2386
rabbit beta-globin SA 2434
EcoRI
XhoI
NotI
BssHII 2544
(BstXI/NdeI) 91
polyoma ori
HCMVIEE
peptide linker
truncated IL6R
(SspI/HincII) 0
ScaI 8697
PvuI 8586
AmpR
pCAGIPtruncatedIL6R
9019 bp
EcoRI 4677
HindIII
EcoRV
ColE1 ori
SV40ori/pA
IRES
BamHI 7147
SfiI 6934
BamHI 6800
HindIII 6613
PstI 6609
bGHpA
Puro
BalI 5451
KpnI 5115
HindIII 5098
ApaI 4991
EcoRI 4866

FIG. 11